

## IDENTIFICATION AND PARTIAL CHARACTERIZATION OF A NEW ILARVIRUS INFECTING PRUNUS SP.

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### Introduction

Prunus species are susceptible to a high number of viruses including ilarviruses, which are widespread and have a worldwide distribution. They are transmitted through vegetative propagation, grafting, seed, pollen, whereas thrips are also able to transmit them by transferring infected pollen. So far, Prunus plantations were mainly known to be infected by *Prunus necrotic ringspot virus* (PNRSV) and *Prune dwarf virus* (PDV). In this work we report the identification and characterization of a novel ilarvirus species.

### Materials and Methods

In 2012, surveys were conducted in order to study the presence of PNRSV and PDV on Prunus species using the generic primer pairs described by Maliogka et al (1) in a real-time RT-PCR assay. In some occasions the analyzed melting curves differed from those obtained from PNRSV or PDV infected samples. Sequencing of the generic RT-PCR amplicon revealed the presence of a divergent ilarvirus variant. In order to further characterize the genome of this variant new degenerate primers were designed based on the sequence of RNA2 and used in RT-PCR assays. A novel real-time RT-PCR assay was developed and applied in sweet cherry, peach and apricot samples for monitoring the presence of the new ilarvirus.

### Results and Discussion

An RNA2 fragment of around 2 kbp was efficiently sequenced from two sweet cherry isolates. The two isolates were 99% identical and shared highest homology with *Parietaria mottle virus* (Acc. No FJ858203 76% nt, 73% aa) and *Tobacco streak virus* (Acc. No JX463335, JX463338 73-74% nt, 73% aa). More RNA2 partial sequences were obtained from other sweet cherry and peach isolates and were subjected to phylogenetic analysis which revealed their clustering in a distinct monophyletic clade within Subgroup 1 of ilarviruses. The application of the herein developed real-time RT-PCR assay unveiled the frequent occurrence of the new ilarvirus in sweet cherry (19/26), peach (24/61) and apricot (3 /10) trees in Greece. This is the first report of a subgroup 1 ilarvirus infecting *Prunus* sp. and further studies are currently taking place on its further characterization, spread and agronomic importance.

### References

1. Maliogka et al., 2007. *Archives of Virology* 152:1687-1698.